

REMARKS

In view of the above amendments and the following remarks, reconsideration of the rejections contained in the Office Action of December 7, 2006 is respectfully requested.

The Examiner rejected independent claims 1, 6, 7, and 9 as being unpatentable over the Kirkhart reference (USP 6,059,843) in view of the Kim reference (USP 5,621,250) and the Amano reference (USP 6,806,588); and rejected the dependent claims in view of the Kirkhart reference, the Kim reference and the Amano reference, and further in view of the Gillespie reference (USP 6,393,573) or the Hirano reference (USP 4,688,036). However, as indicated above, the previously-pending claims have now been cancelled and replaced with new claims 13-17, including new independent claim 13. For the reasons discussed below, it is respectfully submitted that the new claims are clearly patentable over the prior art of record.

A description of the present invention as recited in the new claims will now be provided with reference to various portions of the present application. However, reference to any portions of the present application is provided only for illustrative purposes, and is not intended to otherwise limit the scope of the claims.

As generally described on pages 17-21 of the original specification and illustrated in Figures 1 and 3 of the present application, independent claim 13 is directed to a vehicle-installed apparatus comprising an unlocking/locking detection section 118 for detecting whether a door of the vehicle is unlocked or locked, an ignition key detecting section 117 for detecting whether an ignition key is switched from OFF to ON, a *dedicated* secondary battery 119 for supplying power *only* to the vehicle-installed apparatus, and a state determining section 115 for determining a state of an operating system of the vehicle-installed apparatus (see paragraphs [0052] and [0058]). A secondary battery control section 115 is provided for, if the unlocking/locking detection section 118 is detecting that the door of the vehicle is unlocked, booting up the vehicle-installed apparatus by starting a power supply from the secondary battery to the vehicle-installed apparatus *only* when the state determining section has determined that the operating system of the vehicle-installed apparatus is in a state such that the vehicle-installed apparatus cannot be booted up unless an initial boot-up is performed (see paragraphs [0056] and [0058]-[0059]). A power source switching section 115 is provided for, when the ignition key detecting section has detected that the ignition key is switched from OFF to ON if power is being supplied from secondary battery to the vehicle-installed apparatus, stopping the power supply from the secondary battery

to the vehicle-installed apparatus and starting a power supply from the main power source of the vehicle to the vehicle-installed apparatus (see paragraph [0060] and paragraph [0044] of the original specification).

The vehicle-installed apparatus of new independent claim 13 provides several significant advantages. Firstly, a *dedicated* secondary battery for supplying power *only* to the vehicle-installed apparatus is provided. Therefore, because the secondary battery is not used for purposes other than supplying power to the vehicle-installed apparatus, a secondary battery having an optimum voltage appropriate for the vehicle-installed apparatus (e.g., a voltage lower than the voltages of a primary battery) can be utilized. Furthermore, the dedicated secondary battery for supplying power only to the vehicle-installed apparatus ensures that the life of the secondary battery will be prolonged. Further still, because the power supply from the secondary battery is provided only in limited circumstances (i.e., when the vehicle-installed apparatus cannot be booted up unless an initial boot-up is performed) based on a determination of the state of the operating system of the vehicle-installed apparatus, the dedicated secondary battery is not wasted. Consequently, the life of the secondary battery will be further prolonged (see paragraph [0063]).

The Kirkhart reference teaches a vehicle navigation system in which a main power source is switched to either a full power mode or a low power mode. However, the Kirkhart reference does not teach or even suggest a dedicated secondary battery for supplying power only to a vehicle-installed apparatus. Therefore, the Kirkhart reference also does not teach or suggest the secondary battery control section or the power source switching section as recited in independent claim 13.

The Amano reference teaches a power controller for a vehicle, including a main battery 1 and an auxiliary battery 2 (see Figure 1). The Amano reference teaches that the main battery 1 and the auxiliary battery 2 are interconnected and are each general-purpose batteries for supplying power to various components in a vehicle (see, for example, column 3, lines 23-45 of the Amano reference). Thus, the Amano reference also does not disclose or even suggest a *dedicated* secondary battery for supplying power *only* to the vehicle-installed apparatus. Therefore, the Amano reference also does not teach or suggest a secondary battery control section or a power source switching section as recited in new independent claim 13.

The Gillespie reference is directed to a power management arrangement for an automotive multimedia system. In particular, the Gillespie reference identifies various power

management modes (see column 4, lines 12-32) for managing various electric components. In particular, in each of the management modes, various components are turned off so as to conserve energy, and the management modes are changed depending on which components are turned on or powered up (see, e.g., column 4, lines 17-18 and lines 57-61). The Gillespie reference, however, does not teach or even suggest a dedicated secondary battery for supplying power only to a vehicle-installed apparatus. Furthermore, although the Gillespie reference teaches various operating modes as explained above, the Gillespie reference does not disclose or suggest a secondary battery control section for starting a power supply from a secondary battery to a vehicle-installed apparatus *only* when a state determining section has determined that the operating system of the vehicle-installed apparatus is in a state such that the vehicle-installed apparatus cannot be booted up unless an initial boot-up is performed. In fact, the Gillespie reference does not even teach or suggest a state determining section for determining a state of an operating system of a vehicle-installed apparatus, but instead merely teaches various management modes of a vehicle electrical system, as noted above.

The Kim reference teaches a method for awakening an automotive electronics module including using a time measuring section, and the Hirano reference teaches a keyless entry system for an automotive vehicle. However, neither of these references teach a dedicated secondary battery for supplying power only to a vehicle-installed apparatus, a state determining section for determining a state of an operating system of a vehicle-installed apparatus, a secondary battery control section, and a power source switching section as recited in new independent claim 13.

As explained above, the Kirkhart reference, the Kim reference, the Amano reference, the Gillespie reference, and the Hirano reference do not, either alone or in combination, disclose or suggest the particular combination and arrangement of a dedicated secondary battery, a state determining section, a secondary battery control section, and a power source switching section as recited in new independent claim 13. Therefore, one of ordinary skill in the art would not be motivated to modify or combine these references in a manner that would result in the invention as recited in new independent claim 13. Accordingly, it is respectfully submitted that new independent claim 13 and the claims that depend therefrom are clearly patentable over the prior art of record.

The Examiner's attention is also directed to new dependent claims 14-17, which each recite features that further distinguish the present invention from the prior art. In particular, dependent claim 14 recites that the secondary battery control section is further operable to monitor an amount of power remaining in the secondary battery, while dependent claims 15 and 16 recite that vehicle-installed apparatus further comprises a time measuring section for measuring an amount of time from when the unlocking/locking detection section detects that the door is unlocked. These features allow for further precise control of the power supplied from the secondary battery so as to prevent any waste of the secondary battery and thereby prolong the life of the secondary battery.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. However, if the Examiner should have any comments or suggestions to help speed the prosecution of this application, the Examiner is requested to contact the Applicant's undersigned representative.

Respectfully submitted,

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